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10/828,333	04/21/2004	Reuven Zeitak	Q92263	5462

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EXAMINER	
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ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/828,333	ZEITAK ET AL.	
	Examiner	Art Unit	
	SRINIVASA R. REDDIVALAM	2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 December 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6, 12-15, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Sekihata Osamu et al. (US Pub. No: 2002/0159480 A1)

Regarding claim 1, Sekihata Osamu et al. teach a method for charging for uncounted network traffic overhead, the traffic carried by data packets in a plurality of data paths (see Abstract wherein bandwidth control method is mentioned), the method comprising the steps of: providing a rate regulator having a regulator bandwidth and coupled to a respective ingress port (see Figures 1 and 2 where in bandwidth control apparatus, which is equivalent to rate regulator, is mentioned and bandwidth control apparatus is arranged between MAC and Physical layer of Ether switch), said rate regulator operative to regulate the rate of a data path established over a network between said respective ingress port and an egress port having an egress port bandwidth (see paragraphs [0014] and [0015] wherein read controller of bandwidth control apparatus controlling a read start timing of a next packet, based on the packet length, in order that a difference between the line bandwidth and setting bandwidth assumes a packet interval is mentioned); determining a respective overhead criterion for said data path (see para [0016], lines 5-8 wherein packet interval from the completion of the packet

transmission to the start of the next packet at the buffer assuming a difference between a line bandwidth and a setting bandwidth is mentioned); and, configuring said rate regulator with said respective overhead criterion to charge for uncounted overhead (**see paragraphs [0016] and [0017] wherein adjustment of packet interval by the difference between the line bandwidth and the setting bandwidth is mentioned and packet length, shown in Fig.5, which causes packet interval, includes IPG bytes, which is equivalent to uncounted overhead, is taken into account by setting bandwidth in bandwidth control apparatus**), whereby each data packet transmitted through said rate regulator is handled as a packet that has additional bytes as determined by said overhead criterion (**see para [0048] wherein transmitted packet having data length of 64 bytes is mentioned and the packet length to which the preamble and the like i.e. IPG bytes are added, assumes 84 bytes, is also mentioned and also see Fig.5 wherein IPG bytes of 12 i.e. Inter Packet Gap of 12 bytes which is additional bytes of the packet is mentioned as part of the transmission of the packet**), thereby ensuring that said regulator bandwidth does not exceed said egress port bandwidth (**see para [0017 wherein enabling the outputted packet to be completely confined within the setting bandwidth is mentioned and also see Fig.6D wherein same value i.e. 100Mbps for setting bandwidth and line speed i.e. egress port bandwidth is mentioned and continuous transmission of packets without any packet loss and with IPG bytes included is mentioned**).

Regarding claims 2 and 3, Sekihata Osamu et al. teach the method, wherein said step of providing a rate regulator coupled to a respective ingress port includes providing a rate regulator coupled to an ingress port having a rate selected from the group consisting of 10Mbps, 100Mbps and 1Gbps and ingress port is an Ethernet port (see para [0071], lines 3-10 and para [0031]).

Regarding claim 4, Sekihata Osamu et al. teach the method, wherein said step of determining a respective overhead criterion for said data path includes determining an overhead criterion that defines the maximum difference size between an output overhead and an input overhead of each said data packet (see Figures 5 and 6A wherein IPG bytes is taken into account in overhead criterion used in bandwidth control apparatus of Fig.1 and IPG bytes is the difference between output and input overheads of each data packet).

Regarding claims 5 and 6, Sekihata Osamu et al. teach the method, wherein said determining an overhead criterion includes calculating said overhead criterion using the formula {INs -OUTs}.phi, wherein INs is the size of an input packet input at said respective ingress port, OUTs is the size of an output packet output at said respective egress port, and phi is a rate factor which is equal to 1 if a rate of a ingress port at a source node is higher than a rate of said egress port, and wherein said rate factor phi is equal to 0 if a rate of said ingress port is lower than said rate of said egress port (see Figures 5 and 6A wherein IPG bytes is taken into account in overhead criterion used in bandwidth control apparatus of Fig.1 and IPG bytes is the difference between output and input overheads of each data packet and is also the difference between sizes of

output and input packets as the payload of input and output packets is same. Factor phi only decides if overhead criterion formula is applicable or not and overhead criterion is only valid when value of phi is 1 when rate of ingress port is higher than the rate of egress port which indicates rate regulation is not required when the rate of egress port is higher than the rate of ingress port).

Regarding claim 12, Sekihata Osamu et al. teach a network rate regulator having a regulator bandwidth and used for regulating data packet traffic carried on a data path established between an ingress port and an egress port, said egress port having an egress port bandwidth (see Figures 1 and 2 where in bandwidth control apparatus, which is equivalent to network rate regulator, is mentioned and bandwidth control apparatus is arranged between MAC and Physical layer of Ether switch and see paragraphs [0014] and [0015] wherein read controller of bandwidth control apparatus controlling a read start timing of a next packet, based on the packet length, in order that a difference between the line bandwidth and setting bandwidth assumes a packet interval is mentioned), the regulator comprising: a criterion determining mechanism for determining an overhead criterion for said data path (see para [0016], lines 5-8 wherein packet interval from the completion of the packet transmission to the start of the next packet at the buffer assuming a difference between a line bandwidth and a setting bandwidth is mentioned); and, a configuring mechanism for configuring the rate regulator with said overhead criterion to charge for uncounted overhead (see paragraphs [0016] and [0017] wherein adjustment of packet interval by the difference between the line bandwidth and the setting bandwidth is mentioned and packet length,

shown in Fig.5, which causes packet interval, includes IPG bytes, which is equivalent to uncounted overhead, is taken into account by setting bandwidth in bandwidth control apparatus), whereby each data packet is handled as a packet that has additional bytes as determined by said overhead criterion (**see para [0048] wherein transmitted packet having data length of 64 bytes is mentioned and the packet length to which the preamble and the like i.e. IPG bytes are added, assumes 84 bytes, is also mentioned and also see Fig.5 wherein IPG bytes of 12 i.e. Inter Packet Gap of 12 bytes which is additional bytes of the packet is mentioned as part of the transmission of the packet**) thereby ensuring that said regulator bandwidth does not exceed said egress port bandwidth (**see para [0017 wherein enabling the outputted packet to be completely confined within the setting bandwidth is mentioned and also see Fig.6D wherein same value i.e. 100Mbps for setting bandwidth and line speed i.e. egress port bandwidth is mentioned and continuous transmission of packets without any packet loss and with IPG bytes included is mentioned**).

Regarding claim 13, Sekihata Osamu et al. teach the rate regulator, wherein each said data packet has an input overhead and an output overhead, and wherein said overhead criterion is defined as a maximum difference between said output overhead and said input overhead (see Figures 5 and 6A wherein IPG bytes is taken into account in overhead criterion used in bandwidth control apparatus of Fig.1 and IPG bytes is the difference between output and input overheads of each data packet).

Regarding claims 14 and 15, Sekihata Osamu et al. teach the rate regulator, wherein said overhead is calculated using the formula {IN_s -OUTs}.phi, wherein INs is the size of an input packet input at said respective ingress port, OUTs is the size of an output packet output at said respective egress port and phi is a rate factor which is equal to 1 if a rate of a ingress port at a source node is higher than a rate of said egress port, and wherein said rate factor phi is equal to 0 if a rate of said ingress port is lower than said rate of said egress port (see Figures 5 and 6A wherein IPG bytes is taken into account in overhead criterion used in bandwidth control apparatus of Fig.1 and IPG bytes is the difference between output and input overheads of each data packet and is also the difference between sizes of output and input packets as the payload of input and output packets is same. Factor phi only decides if overhead criterion formula is applicable or not and overhead criterion is only valid when value of phi is 1 when rate of ingress port is higher than the rate of egress port which indicates rate regulation is not required when the rate of egress port is higher than the rate of ingress port).

Regarding claim 21, Sekihata Osamu et al. teach a rate regulator wherein said ingress port is an Ethernet port selected from the group consisting of 10Mbps, 100Mbps and 1Gbps (see para [0071], lines 3-10 and para [0031]).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 7, 9-11, 16, and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekihata Osamu et al. (US Pub. No: 2002/0159480 A1) in view of Russell et al. (US Patent No: 6,496,519 B1)

Regarding claim 7, Sekihata Osamu et al. do not teach specifically the method, wherein step of providing a rate regulator operative to regulate the rate of a data path established over a network includes providing an Ethernet based network having Ethernet traffic.

However, Russell et al. teach the data path in data communications network includes LAN or WAN (see col.1, lines 17-19).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the method of Sekihata Osamu et al. to include Ethernet based

network having Ethernet traffic as the established data path disclosed by Russell et al. for providing data flow control in LAN.

Regarding claims 9 and 10, Sekihata Osamu et al. do not teach specifically the method wherein said Ethernet traffic is transmitted over a non-Ethernet network and non-Ethernet network is selected from the group consisting of a SDH network and a SONET network.

However, Russell et al. teach Ethernet traffic is transmitted over a non-Ethernet network and non-Ethernet network is selected from the group consisting of a SDH network and a SONET network (see Fig.11 and col.10, lines 1-4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the method of Sekihata Osamu et al. to have Ethernet traffic transmitted over a non-Ethernet network i.e. over SDH/SONET network disclosed by Russell et al. in order to have interoperability between Ethernet and non- Ethernet networks for data transmission.

Regarding claim 11, Sekihata Osamu et al. do not teach specifically the method wherein said egress port is an Ethernet port selected from the group consisting of 10Mbps, 100Mbps and 1 Gbps.

However, Russell et al. teach egress port is an Ethernet port selected from the group consisting of 10Mbps, 100Mbps and 1 Gbps (see col.9, lines 52-54 and col.10, lines 60-63 and col.11, Table 1)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the method of Sekihata Osamu et al. to have egress port as an Ethernet port selected from the group consisting of 10Mbps, 100Mbps and 1 Gbps disclosed by Russell et al. in order to support standard Ethernet port for egress port.

Regarding claim 16, Sekihata Osamu et al. do not teach specifically for the network rate regulator, wherein said network is an Ethernet based network having Ethernet traffic.

However, Russell et al. teach the data communications network includes LAN or WAN (see col.1, lines 17-19).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the network rate regulator of Sekihata Osamu et al. to include Ethernet based network having Ethernet traffic as data communications network disclosed by Russell et al. for providing data flow control in LAN.

Regarding claims 18 and 19, Sekihata Osamu et al. do not teach specifically for the rate regulator wherein said Ethernet traffic is transmitted over a non-Ethernet network and non-Ethernet network is selected from the group consisting of a SDH network and a SONET network.

However, Russell et al. teach Ethernet traffic is transmitted over a non-Ethernet network and non-Ethernet network is selected from the group consisting of a SDH network and a SONET network (see Fig.11 and col.10, lines 1-4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the rate regulator of Sekihata Osamu et al. to have Ethernet traffic

transmitted over a non-Ethernet network i.e. over SDH/SONET network disclosed by Russell et al. in order to have interoperability between Ethernet and non- Ethernet networks for data transmission.

Regarding claim 20, Sekihata Osamu et al. do not teach specifically for the rate regulator wherein said egress port is an Ethernet port selected from the group consisting of 10Mbps, 100Mbps and 1 Gbps.

However, Russell et al. teach egress port is an Ethernet port selected from the group consisting of 10Mbps, 100Mbps and 1 Gbps (see col.9, lines 52-54 and col.10, lines 60-63 and col.11, Table 1)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the rate regulator of Sekihata Osamu et al. to have egress port as an Ethernet port selected from the group consisting of 10Mbps, 100Mbps and 1 Gbps disclosed by Russell et al. in order to support standard Ethernet port for egress port.

6. Claims 8 and 17are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekihata Osamu et al. (US Pub. No: 2002/0159480 A1) in view of Russell et al. (US Patent No: 6,496,519 B1) and further in view of Wen-Tsung Tang (US Patent No: 6,195,332 B1)

Regarding claims 8 and 17, Sekihata Osamu et al. and Russell et al. do not teach specifically the method and the rate regulator wherein said Ethernet based network is selected from the group consisting of a metro Ethernet network (MEN), a local area network (LAN), and/or a virtual local area network (VLAN).

However, Wen-Tsung Tang teaches Ethernet based network is selected from the group consisting of a metro Ethernet network (MEN), a local area network (LAN), and a virtual local area network (VLAN) (see col.3, lines 48-56).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the method and the rate regulator of Sekihata Osamu et al. and Russell to select Ethernet based network from the group consisting of a metro Ethernet network (MEN), a local area network (LAN), and a virtual local area network (VLAN) disclosed by Wen-Tsung Tang for better interoperability of the network for data transmission.

Response to Arguments

7. Applicant's arguments filed on 12/28/2007 have been fully considered but they are not persuasive.

8. Applicants mention that Sekihata does not disclose, at least, configuring said rate regulator with said respective overhead criterion to charge for uncounted overhead, whereby each data packet transmitted through said rate regulator is handled as a packet that has additional bytes as determined by said overhead criterion, thereby ensuring that said regulator bandwidth does not exceed said egress port bandwidth.

However, Sekihata does disclose configuring said rate regulator with said respective overhead criterion to charge for uncounted overhead (**see paragraphs [0016] and**

[0017] wherein adjustment of packet interval by the difference between the line bandwidth and the setting bandwidth is mentioned and packet length, shown in Fig.5, which causes packet interval, includes IPG bytes, which is equivalent to uncounted overhead, is taken into account by setting bandwidth in bandwidth control apparatus), whereby each data packet transmitted through said rate regulator is handled as a packet that has additional bytes as determined by said overhead criterion(**see para [0048] wherein transmitted packet having data length of 64 bytes is mentioned and the packet length to which the preamble and the like i.e. IPG bytes are added, assumes 84 bytes, is also mentioned and also see Fig.5 wherein IPG bytes of 12 i.e. Inter Packet Gap of 12 bytes which is additional bytes of the packet is mentioned as part of the transmission of the packet**), thereby ensuring that said regulator bandwidth does not exceed said egress port bandwidth (**see para [0017 wherein enabling the outputted packet to be completely confined within the setting bandwidth is mentioned and also see Fig.6D wherein same value i.e. 100Mbps for setting bandwidth and line speed i.e. egress port bandwidth is mentioned and continuous transmission of packets without any packet loss and with IPG bytes included is mentioned**) and also described in claims 1 and 12 under claim rejections above.

9. Applicants further mention that Sekihata does not disclose “ensuring that said regulator bandwidth does not exceed said egress port bandwidth,” as recited in claim1. However, Sekihata discloses this as explained above i.e. considering the IPG bytes,

which are additional bytes, as part of packet transmission by the setting bandwidth, enable the outputted packets to be completely confined within the setting bandwidth and Fig.6D shows the equal value for setting bandwidth and line speed i.e. egress port bandwidth and also shows continuous transmission of packets with IPG bytes included without any packet loss.

10. Applicants mentions that in Sekihata, each data packet transmitted includes the header bytes, and thus, such packets are not handled as packets that have additional bytes and further mention that Sekihata does not disclose, at least, "that each packet transmitted through said regulator is handled as a packet that has additional bytes … thereby ensuring that said regulator bandwidth does not exceed said egress port bandwidth". However, Sekihata discloses in Fig.5 that each data packet transmitted includes header bytes, data and additional bytes i.e. IPG (Inter Packet Gap) bytes and also discloses that each packet transmitted through said regulator is handled as a packet that has additional bytes … thereby ensuring that said regulator bandwidth does not exceed said egress port bandwidth as explained in section 8 above.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any response to this office action should be faxed to (571) 273-8300 or mailed To:

Commissioner for Patents,

P.O. Box 1450

Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window

Randolph Building

401 Dulany Street

Alexandria, VA 22314.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SRINIVASA R. REDDIVALAM whose telephone number

is (571)270-3524. The examiner can normally be reached on Mon-Fri 9:30 AM - 7 PM (1st Friday OFF).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chirag Shah can be reached on 571-272-3144. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

S Reddivalam
03/20/2008

/Chirag G Shah/
Supervisory Patent Examiner, Art Unit 2619